

Octet, Phase I

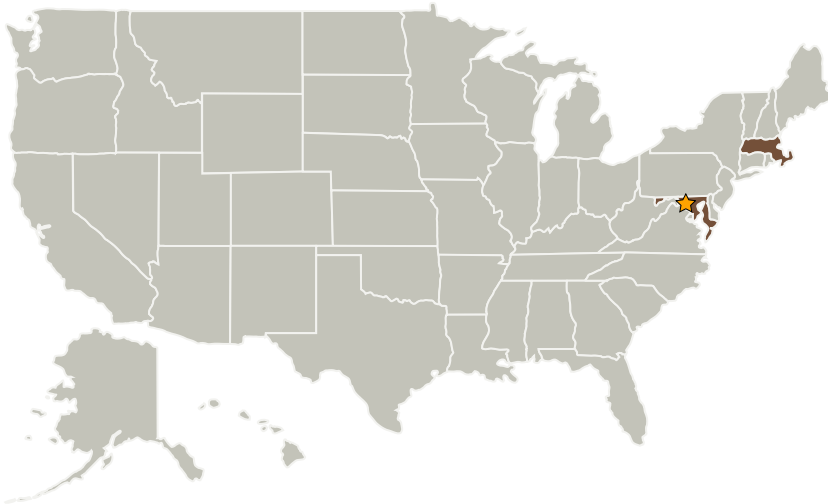
Completed Technology Project (2008 - 2008)



Project Introduction

Analysis of NASA science data is analyzed to understand dynamic systems such as the sun, oceans, and Earth's climate as well as to look back in time to explore the origins of the universe. Complex algorithms and intensive data processing are needed to interpret data over time, at various energy ranges, and at different points in space. Of most interest are innovative interpolation, clustering and registration algorithms which radically increase algorithm efficiency and in turn drastically reduce computational time. Infoscitex (IST) proposes a novel, innovative spatial tool (Octet), which uses an octal tree structure (octree) for data representation, search, processing, and display, and shows dramatic improvements over traditional data analysis, processing and fusion software. Octet is designed specifically for feature isolation, volume and density calculation, collision detection, and data fusion and synthesis. At the end of Phase II, Octet will be a robust, fully-documented software package, using XML to promote interoperability and therefore collaborative research between NASA and other research centers.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Infoscitex Corporation	Supporting Organization	Industry	Waltham, Massachusetts

Primary U.S. Work Locations

Maryland	Massachusetts
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Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Andrew Decarlo

Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
 - └ TX11.4 Information Processing
 - └ TX11.4.2 Intelligent Data Understanding